REMARKS

Claims 1-14 are pending in the application. Claims 10-14 are withdrawn from consideration.

Independent claims 1, 8 and 9 have been herein amended to more clearly define the invention. Antecedent support for the amendments can be for example, found on page 8 (specifically lines 5-19, page 9, lines 5-14 and page 10, lines 9-16).

Claims 1, 8, and 9 being objected to by the Examiner have been amended to overcome the Examiner's objections thereto. Claim 5 rejected under 35 U.S.C.§112, second paragraph has been amended to avoid the rejection.

Claims 1-3, 8 and 9 are rejected under 35 U.S.C.§102 as being anticipated by Bleickardt et al. (5,461,622). Claims 4-7 are rejected under 35 U.S.C.§103 as being unpatentable over Bleickardt et al. in view of Cioffi et al. (6,473,438).

Bleickardt teaches a method and apparatus for using SONET overhead to provide the information which enables multiple SONET data streams to be properly recombined at the receiving end of an inverse multiplexed super-rate data signal. A super-rate signal is split by an inverse multiplexer into a plurality of SONET STS-1 signals. If the signals received at the receiving end have misaligned frames, the A1 and A2 framing bytes and the H1 and H2 pointer bytes are used for realigning the data frames.

In Bleickardt, the A1 and A2 bytes in section overhead (SOH) are used for establishing frame synchronization and the H1 and H2 bytes in an AU pointer are used for detecting the leading position of a low speed signal (STS-1). By doing so, STS-1 signals are multiplexed into a concatenation signal or a concatenation signal is split into a plurality of STS-1 signals

(Bleickardt also describes the multiplexing of STS-3c signals into a higher speed concatenation signal and the splitting of a higher speed concatenation into STS-3c signals).

Contrary to Bleickardt et al. the claimed signal dividing means (11) at the sending end generates low speed concatenation signals (divided signals) from a high speed concatenation signal and the signal restoring means (22) at the receiving end restores the original high speed concatenation signal by constructing the divided signals on the basis of the guarantee information.

In this case, to construct the divided signals, the guarantee information adding means (12) at the sending end adds guarantee information for guaranteeing continuity. As a result, the way in which the concatenation signal was divided to generate the divided signals, the order of the division, or the like, can be realized at the receiving end. Therefore, the original concatenation signal can be restored normally (page 8, line 23-page 9, line 1 of the applicant's specification).

That is to say, in Bleickardt, a high speed concatenation signal is generated or split by using header information, such as the A1 and A2 bytes and the H1 and H2 bytes, which have already been standardized on frames formed on the basis of the multiplexing units, such as STS-1 or STS-3c, which have already been standardized. Contrary to Bleickardt, as claimed in claim 1, a high speed concatenation signal is properly divided according to a bit rate available for a transmission line laid to generate divided signals (concatenation signals) the bit rates of which are equal to (or lower than) the available bit rate (see page 10, lines 13-16).

It is assumed that a concatenation signal to be divided is an STS-192c signal. Then a plurality of low speed concatenation signals which consist of, for example, twenty STS-3c concatenation signals, three STS-12c concatenation signals, and two STS-48c concatenation signals are properly generated from the original STS-192c concatenation signal according to the

state of the transmission line laid. A high speed concatenation signal is properly divided and transmitted in this way, so existing networks on which bit rates are limited can be utilized effectively (see page 27, lines 12-15 of the specification).

Furthermore, the guarantee information adding means 12 adds guarantee information to a concatenation signal by the use of the Z3, Z4, and Z5 bytes which a user can define at will, and then the concatenation signal is divided. Therefore, the original concatenation signal can be restored normally at the receiving end (see Fig. 4 of this application).

As described above, guarantee information, for guaranteeing continuity recited in claim 1 is newly defined and the multiplexing or dividing of concatenation signals is controlled freely according to the state of a transmission line. On the other hand, in Bleickardt, the multiplexing or dividing of VCs, being multiplexing units which have already been standardized, is controlled. Furthermore, to generate a variety of concatenation signals described above is not an object in Bleickardt and no means are suggested in the reference to attain at such object. As a result, existing networks on which bit rates are limited cannot be utilized effectively.

According to claims 1 and 8 guarantee information is added to an original high speed concatenation signal, a plurality of low speed concatenation signals are generated according to the state (available bit rate) of a transmission line, and the original concatenation signal is restored. Therefore, efficiency in transmission on a plurality of transmission lines via various networks increases and existing networks on which bit rates are limited can be utilized effectively. In Bleickardt, however, no reference is made to an increase in transmission efficiency caused by properly dividing and restoring such a concatenation signal.

Therefore, the function of the signal dividing means 11 of claim 1 cannot be realized by the timing extractor 205, buffer and stuff control section 211, splitter 213, OH (overhead)

inserters 217, and retiming and parallel-to-serial circuits 219 of Bleickardt and they cannot be considered to be the same as the signal dividing means 11. Moreover, the function of the overhead inserter 217 is not the same as that of the guarantee information adding means 12. In addition, the function of the signal restoring means 22 cannot be realized by the clock controller 509, combiner 510, and retiming and parallel-to-serial circuit 511 of Bleickardt.

As stated above, Bleickardt does not teach any of the components of claim 1. That is to say, Bleickardt differs entirely from claim 1 in problem to be solved and structure.

Claim 8 claims the features of the sending apparatus of claim 1 and claim 9 claims the features of the receiving apparatus of claim 1. Bleickardt, is silent regarding to the features of claim 8 or claim 9.

In short, independent claims 1, 8 and 9 are not anticipated by Bleickardt et al. and it is respectfully submitted that the rejection of these claims be withdrawn.

Gioffi, et al; applied against claims 4-7 in combination with Bleickardt et al, teaches delay correction which is determined from the amount of delay that the central unit 10 detects between the time it transmits a quiet period marker and its reception of the initialization signal.

Firstly, claims 2-7 depend on claim 1 and therefore include all the limitations thereof, secondly, Gioffi et al. refers to an apparatus for coordinating multi-point to-point communications in a multi-tone transmission system which has little to do with the applicant's invention as claimed.

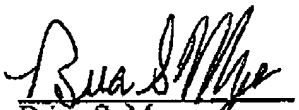
It is respectfully submitted that claims 1-9 as amending are patently distinguishable over the prior art and these claims should be allowed.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider

this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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